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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,813	04/02/2004	Koichiro Tanaka	0756-7283	9376

31780 7590 11/02/2006

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EXAMINER	
CHAMBLISS, ALONZO	

ART UNIT	PAPER NUMBER
2814	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/815,813	TANAKA ET AL.	
	Examiner	Art Unit	
	Alonzo Chambliss	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18 and 29-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *7-18 and 35-40* is/are allowed.

6)☒ Claim(s) *1-4 and 29-32* is/are rejected.

7)☒ Claim(s) *5,6,33 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/21/06,9/14/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/15/06 have been fully considered but they are not persuasive.

Applicant alleges that Yamazaki fails to disclose a pulse with of the first pulse laser beam and a pulse width of the second pulse laser beam to be different from each other. The second pulse laser beam is a fundamental wave. This is deemed to be unpersuasive because Yamazaki teaches a wavelength of the first pulse laser beam that is equal to or shorter than that of visible light (i.e. between 300nm – 700nm), and a wavelength of the second pulse laser beam is longer than that of the first pulse laser beam. Crystallizing the amorphous semiconductor by irradiating the amorphous semiconductor film with a laser beam. Patterning the crystalline semiconductor film into a semiconductor layer. Thus, allowing the pulse with of the first pulse laser beam and a pulse width of the second pulse laser beam to be different from each other. The second pulse laser beam is a fundamental wave (see col. 5 lines 1-15 and 40-55).

Drawings

2. The formal drawings filed on 4/2/04 have been approved by the examiner.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 8/21/06 and 9/14/06 was filed after the mailing date of the final rejection on 10/30/06. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4 and 29-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamazaki et al. (US 6,700,096).

The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this

application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to Claims 1-3 and 29-31, Yamazaki discloses irradiating an amorphous semiconductor film (i.e. subject) formed over a substrate with a first pulse laser beam (i.e. YAG laser) and a second pulse laser beam (i.e. YOV_4 laser) relatively moving the subject so that areas which are irradiated with the first pulse laser beam and with the second pulse laser beam are overlapped with each other, wherein oscillations of the first pulse laser beam and the second pulse laser beam are synchronized, and wherein a wavelength of the first pulse laser beam is equal to or shorter than that of visible light (i.e. between 300nm – 700nm), and a wavelength of the second pulse laser beam is longer than that of the first pulse laser beam. Crystallizing the amorphous semiconductor by irradiating the amorphous semiconductor film with a laser beam. Patterning the crystalline semiconductor film into a semiconductor layer. Thus, allowing the pulse with of the first pulse laser beam and a pulse width of the second pulse laser beam to be different from each other. The second pulse laser beam is a fundamental wave. A channel formation region is include at least a part of the semiconductor layer. (see col. 5 lines 1-15 and 40-55, col. 7 lines 1-50, col. 33 lines 2067, col. 36 lines 63-67, and col. 37 lines 1-6; Figs. 34A-34C and 35A).

With respect to Claims 4 and 32, Yamazaki teaches wherein each of the first pulse laser beam and the second pulse laser beam is shaped into a linear beam (see col. 2 lines 18).

Allowable Subject Matter

6. Claims 7-18 and 35-40 are allowed.

7. Claims 5, 6, 33, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowance subject matter: the prior art of record does not teach or suggest the combination wherein the first pulse laser beam satisfies an inequality of theta1 greater than or equal to arctan (W1/2d), where theat1 is an incident angle of the first pulse laser beam, W1 is a length of a major axis or a minor axis of the first pulse laser beam, and d is a thickness of the substrate in claims 5 and 33.

The second pulse laser beam satisfies an inequality of theta 2 greater than or equal to arctan (W2/2d), where theat1 is an incident angle of the second pulse laser beam, W2 is a length of a major axis or a minor axis of the second pulse laser beam, and d is a thickness of the substrate in claims 6 and 34.

The first pulse laser beam melt: the semiconductor film, and the second pulse laser beam satisfies (alpha greater than or equal to 10 beta), where alpha denotes an absorption coefficient with respect to a molten state of the semiconductor film, and ;beta denotes an absorption coefficient with respect to a solid state of the semiconductor film along with the other limitation in claim 7.

The first pulse laser beam has a wavelength range of which an absorption coefficient with respect to a solid stat of the semiconductor film is $5x10^3$/cm or more.

The second pulse laser beam has a wavelength of which an absorption coefficient with respect to a solid state of the semiconductor film is $5x10^2$/cm or less and an absorption coefficient with respect to a molten state of the semiconductor film is $5x10^3$/cm or more along with the other limitation in claim 13.

Forming a channel formation region including at least a part of the semiconductor layer. The first pulse laser beam has a wavelength range of which an absorption coefficient with respect to a solid stat of the semiconductor film is $5x10^3$/cm or more. The second pulse laser beam has a wavelength of which an absorption coefficient with respect to a solid state of the semiconductor film is $5x10^2$/cm or less and an absorption coefficient with respect to a molten state of the semiconductor film is $5x10^3$/cm or more along with the other limitation in claim 41.

The prior art made of record and not relied upon is cited primarily to show the process of the instant invention.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

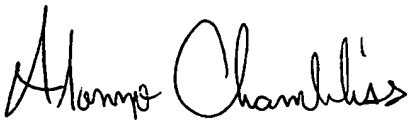
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (571) 272-1927.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-7956

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system see http://pair-dkect.uspto.gov. Should you have questions on access to the Private PMR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or EBC_Support@uspto.gov.



Alonzo Chambliss
Primary Patent Examiner
Art Unit 2814

AC/October 30, 2006